

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003418**Date Inspected:** 10-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Liu Hua jie, Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

Tower (Heavy Machinery Shop – Bay 1

The Caltrans QA Inspector also randomly observed that no flame cutting or machining of bevels was being done in this shop.

The Caltrans QA Inspector also randomly observed the machine Submerged Arc Welding (SAW) of fill passes on Weld No. SSD1-SA173A/K-20A, Skin Plate Face "E". This is a complete joint penetration (CJP) groove weld. The welding was performed in the flat groove (1G) welding position by welding operator, Yong Chuan jun (I. D. No. 0503060). Welding Procedure Specification (WPS) WPS-B-T-2221-B-U3c-S was used. Certified Welding Inspector (CWI), Liu Hua Jie (CWI No. 07120741) was present during the welding, as was ABF QA Inspectors, Xiao Jun peng and Jiang Zi wen. The members being welded were p150(S), p151(S), p124(S), p219(S), p126(S) and SA173(S). The Caltrans QA Inspector verified the qualifications of the welding operators, and that the electrode/flux classification, diameter of electrode, amperage, voltage, travel speed, and preheat/interpass temperatures were within the specified ranges on the applicable WPS.

Tower (Heavy Machinery Shop – Bay 2

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

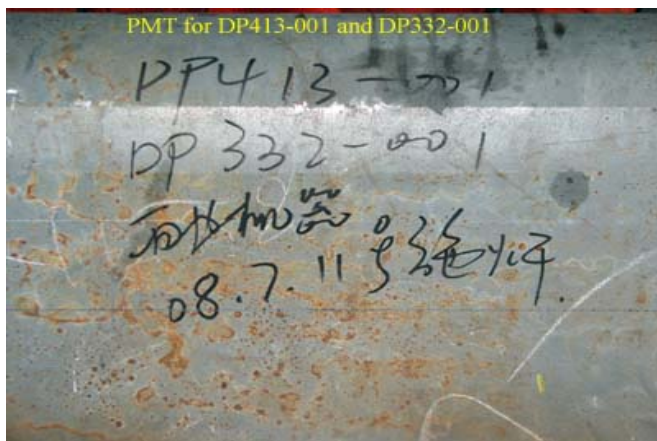
The Caltrans QA Inspector randomly observed that no flame cutting or welding was being done in this shop. Piece Marks p20b and p1328a were being beveled by machining.

OBG Sub-Assembly Shop – Bay 1

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, was present to monitor activities associated with the Production Monitoring Test (PMT) of Orthotropic Box Girder (OBG) Deck Panel U-rib welds. The PMT representing Deck Panels DP413-001 and DP332-001 was monitored. As a result of the magnetic particle examination (MT) of the tack welds, ZPMC decided to replace two of the three U-rib assemblies for the PMT. MT of the tack welds on the two replacement assemblies resulted in them being replaced also. At this point, two U-rib assemblies had to be tacked. MT on the third set was accepted by ZPMC Level II MT Technician, Xu Hai, at approximately 0240 hours. Welding commenced at approximately 0300 hours. The three ribs (six welds) were simultaneously welded to the simulated deck plate in the horizontal groove (2G) welding position. The Welding Procedure Specification (WPS) used was WPS-B-T-2342-U1(Urib)-3. It is a combination procedure using gas metal arc welding (GMAW) for the root pass and submerged arc welding (SAW) for the cover or fill pass. The filler metals being used were verified to be as specified on the WPS; 1.4 mm diameter, ER70S-6 (JM-56) for GMAW and 4.8 mm diameter EM12K (JW-3) for SAW. In addition, the specified flux, JF-B was also verified for SAW. During the test, the Caltrans QA Inspector recorded the parameters of amperage, voltage, and travel speed on the U-Ribs PMT Inspection Sheet, dated 07-11-08, for both welding processes. Each of the six welding operators' identification numbers were also recorded on the U-Ribs PMT Inspection Sheet. ZPMC Certified Welding Inspector (CWI), Sun Wei and ABF QA Inspector Lv Yun were present during welding.

The final weld was visually examined and accepted by ZPMC CWI, Sun Wei; and ABF QA Inspector Lv Yun. All welds appeared to meet the specified visual examination acceptance criteria.. After ultrasonic examination (UT) and acceptance by ZPMC Level II UT Technician, Xue Hai Rong, the Caltrans QA Inspector designated the locations for the fifteen required macro-etch specimens. The macro-etch specimens were not ready for examination by the end of the shift.

All above observations appeared to meet the requirements of the job specifications.



Summary of Conversations:

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi (13764710411) China, who represents the Office of Structural Materials for your project.

Inspected By:	Jobes,Kenneth	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
